Field Report Summary – *Ex-USS Kittiwake (ASR-13)*
June 14 – 18, 2010
Dominion Marine Group, Norfolk, VA

Participants

Cayman Islands

Nancy Easterbrook (Divetech) – Project Manager
Jay Easterbrook (Divetech)
Scott Slaybaugh – CIDOE

MARAD

Dana Austin

DMG

Tim Mullane

EPA

Laura Johnson – OCPD
Laura Casey – ORCR

Purpose – The purpose of the site walk was to meet with representatives from the Cayman Islands and their remediation contractors and conduct the final project site walk.

Background – The Kittiwake is a Chanticleer Class Submarine Rescue Vessel built and commissioned in 1944. Dimensions are as follows –

Length – 251" 4"
Beam – 42'
Draft – 16'
Displacement – 2,045 tons (full load)
Propulsion – Diesel-Electric, single screw, 3000 h.p.

The Kittiwake was transferred to the James River Reserve Fleet (JRRF) in the late 1990s by the US Navy. In 2003, the Cayman Islands began the process to take title of the Kittiwake from MARAD. MARAD completed the title transfer process to the Cayman Islands Government In January 2010. The vessel was then towed from the JRRF to Dominion Marine Group, Norfolk, VA and is being remediated and prepared for sinking as an artificial reef off Grand Cayman Island. The projected tow date is July 9, 2010 and the projected sink date is July 27, 2010.

Weather – The weather all week was sunny, hot (high 80s to high 90s) and humid. The humidity was reduced after a severe thunderstorm Wednesday evening.

PPE - Level D was worn by EPA personnel. Level D for this specific site consisted of hard hats equipped with head lamps, leather or latex gloves, safety glasses and steel-toed boots. In addition, EPA carried flashlights and batteries (including spares), small hand tools such as Leatherman multi-purpose tools, notebooks, pens and cameras.

Vessel Conditions – The Kittiwake is flying the Cayman Islands flag and has "Dive Cayman" stencils prominently placed on the vessel. A stencil of the Caymans flag is also on the stack. Originally the stern was stenciled with "Property of U.S. Government"; it now reads "Property of the Cayman Islands Government". There is still a slight list to starboard which was evident during a severe thunderstorm as the ship began listing even more as rainwater entered the ship from numerous cutouts. The following day, DMG had several double diaphragm pumps going pumping out water from below decks.

The ship was still undergoing remediation including the removal of asbestos insulation that was overlooked during the original removal and the cutting of diver access holes and removal of piping and other large pieces of equipment. Many compartments have been opened up and bulkhead and watertight doors removed. Electronic equipment has been removed completely or gutted and left in place. Some items such as crew bunks will be reattached for diver interest. The original plan was remove, clean and replace 2 of the 4 engines but due to time constraints, the engines will not be replaced. It is now possible to stand in the lower engine room and look all the way up the stack. More cutouts will be done in the Cayman Islands upon arrival.

The working conditions were far from ideal. The weather was hot and humid making working on the weather decks and superstructure compartments difficult. Below decks was hot and humid with little ventilation. In addition, cutting operations often left compartments smoky and full of fumes. Frequent fresh air breaks were taken when working below decks.

Site Walk – EPA began the site walk on Monday afternoon. Due to the heat and humidity it was decided to begin with the Main Deck or 1 Deck and continue with upper decks. The site walk began in the stern and moved towards the bow. Work was still going on by the aft winches and it was also being used as a staging area for equipment so that section was left until later in the week. EPA made every attempt not to interfere with the work crews or attempt to survey an area still being remediated. For consistency, EPA's approach to the Main Deck and upper decks was to walk the exposed or "weather" decks from stern to bow and then move through the superstructure compartments from bow to stern. The Main Deck and superstructure walk through was completed on 6/15/2010.

On 6/16/2010, EPA began walking the below decks from the 2 Deck to the bilges. The process differed slightly below decks due to the presence of water-tight bulkheads dividing the ship into sections. Instead on walking from bow to stern, the ship was walked up and down decks between the water-tight bulkheads. Sections were not worked in an orderly fashion as at times compartments or sections had to be skipped due to work crews being present. The below decks walk through was completed on 6/17/2010.

EPA was accompanied by Nancy Easterbrook and/or Scott Slaybaugh of the Cayman Islands (CI). DMG provided several crew members to remediate any items on the spot if possible. Most of the materials found were tufts of Bulkhead Insulation (BHI) left in corners and along beams, small bits/nubs of cables/wires, oils/greases on decks or machinery and gasket materials. General housekeeping was also an issue as plastic bottles, gloves, tools and other assorted "debris" including a leaking generator where found throughout the ship. If an item was found, either DMG or CI attempted to remediate it on the spot. If it could not be remediated on the

spot, then EPA assigned a number and attached a tag of red duct tape as close to the item as possible. The tag included the assigned number and a description of the material needing attention. If a material was tagged and the item remediated while EPA was present, the tags were left and a note was made in field notebooks. Photographs of each tag and item was taken and information recorded in field notebooks. EPA attached a total of 101 tags throughout the ship. EPA stopped tagging BHI when it was discovered that the insulation removal contractors had not completed their own final walk through. EPA also stopped tagging gaskets associated with sea cocks and sea chests as these will be handled as a separate PCB remediation issue.

OCPD staff returned on 6/18/2010 to verify remediation of the tagged items and remove the tags. All parties agreed that EPA would remove the tags after visual verification. OCPD staff verified the remediation or removal of 96 of 101 items and removed EPA's red tags. Three of the remaining 5 items are ongoing oil and grease issues including a leaking generator. These 3 items should be resolved towards the end of the remediation phase when the non-skid decking is removed. The other 2 items were a pipe flange with a rubber gasket and a cable end. OCPD staff could not locate the pipe in question and after discussing the location with ORCR staff, it was determined the flange and gasket and a portion of the piping had been removed entirely. OCPD staff could not locate the tag for the cable end and as insurance, resurveyed the entire compartment with CI representatives and determined the cable end and tag had been removed.

Outstanding Issues – There are 2 outstanding issues left from the site walk –

1. Sea Cocks and Sea Chests – Sea cocks and chests are large "through hull" valves found through out the ship. They can be found at, above or below the waterline. The sea cocks were generally found at or above the water line. The sea chests are found below the water line. DMG estimated approximately 30 sea cocks and 4 sea chests. The sea cocks had 3 or 4 rubber gaskets each and the sea chests had 1 gasket. Removal of these valves and/or gaskets can compromise ship integrity since they are a direct connection to the water. ORCR staff consulted with CI and DMG on how to handle the gaskets. It was originally thought that a sampling plan for the gaskets would have to be developed on site but after surveying the valves with DMG and CI it was determined the sea cocks at or above the waterline could be removed and blanked at DMG's facility. The gaskets in the sea chests would be removed and replaced with new gaskets when the ship is dry-docked for scamping. The likelihood of PCBs being present in the gaskets was determined to be relatively low as these gaskets would be subject to routine maintenance as they are integral to the seaworthiness of the ship and the gaskets would have been replaced at regular intervals. The ship was last retrofitted in the mid-1980s (1986) and decommissioned in the mid-1990s so there is a strong chance the gaskets were installed well after the ban on PCBs went into effect.

2. The removal of 2 "through hull" cables form the Sonar room while in dry dock.

CI/DMG will provide EPA a short report and photographic evidence that the valves and Sonar cables were dealt with in the agreed upon manner.

Recommendation – While remediation activities were still being performed onboard, there were relatively minor issues with respect to PCBs except for the sea cocks and chests. Overall the

PCB remediation appears to be successful. CI and DMG personnel were responsive to EPA's advice and requests.

Pending receipt of documentation verifying remediation/removal of the sea cocks and sea chests and Sonar cables and the final project documentation being developed by CI, EPA sees no reason why CI should not continue moving forward with the export of the Kittiwake to the Cayman Islands for sinking as an artificial reef.